

IN THE CLAIMS:

Please cancel claims 1-34, without prejudice or disclaimer.

Please add new claims 35-68 as follows:

Claims 1-34 (canceled).

35. (new) Cover for an object using solar radiation, wherein the cover comprises:

a cover sheet made of a material transparent to solar radiation;

wherein, viewed in cross-sectional view with respect to the sheet, the sheet has a zigzag profiled surface structure on either side; and

wherein the distance between two neighboring peaks of the zigzag surface structure is L and the thickness of the sheet is D; and wherein $L < 0.25D$.

36. (new) Cover according to claim 35, wherein the flanks of the zigzag surface structure run at an angle β with respect to the plane of the sheet; and

wherein for the range of β : $45^\circ \leq \beta \leq 85^\circ$.

37. (new) Cover according to claim 36, wherein $\beta \leq 51^\circ$.

38. (new) Cover according to claim 36, wherein $\beta \geq 47^\circ$.

39. (new) Cover according to claim 36, wherein $\beta = 49^\circ \pm 2^\circ$.

40. (new) Cover according to claim 36, wherein $\beta = 49^\circ \pm 1^\circ$.

41. (new) Cover according to claim 35, wherein the distance between two neighboring peaks of the zigzag surface structure is L; and

wherein for the range of L: $0.5 \mu\text{m} \leq L \leq 8 \text{ mm}$.

42. (new) Cover according to claim 41, wherein $L \leq 200 \mu\text{m}$.

43. (new) Cover according to claim 41, wherein $L \leq 100 \mu\text{m}$.

44. (new) Cover according to claim 41, wherein $L \leq 50 \mu\text{m}$.

45. (new) Cover according to claim 41, wherein $L \geq 10 \mu\text{m}$

46. (new) Cover according to claim 41, wherein $L \geq 20 \mu\text{m}$.

47. (new) Cover according to claim 41, wherein the zigzag surface structure has a different value for L on the one side than the other side.

48. (new) Cover according to claim 35, wherein the thickness of the sheet is D; and

wherein $20 \mu\text{m} \leq D \leq 12 \text{ mm}$.

49. (new) Cover according to claim 41, wherein $L < 0.1 D$.

50. (new) Cover according to claim 35, wherein the flanks of the zigzag profiled surface structure that terminate at the same peak intersect one another at said peak.

51. (new) Cover according to claim 35, wherein the zigzag surface structure includes a multiplicity of grooves parallel to one another.

52. (new) Cover according to claim 35, wherein the zigzag surface structure includes a multiplicity of pyramid-shaped elevations.

53. (new) Cover according to claim 52, wherein the base plane of each of the pyramid-shaped elevations or depressions runs in the direction in which the transparent sheet extends; and

wherein said base plane has a 3-cornered, 4-cornered, 6-cornered, or 8-cornered shape or includes a combination of 4-cornered and 8-cornered base planes.

54. (new) Cover according to claim 53, wherein the 3-cornered, 4-cornered, 6-cornered, or 8-cornered base plane or the combination of 4-cornered and 8-cornered base planes is shaped such that the pyramid-shaped elevations or, alternatively, depressions essentially fill the entire surface, or at least a surface zone, of the transparent sheet.

55. (new) Cover according to claim 35, wherein the cover sheet is flat or at least contains flat segments.

56. (new) Cover according to claim 35, wherein the cover sheet is at least partially curved.

57. (new) Cover according to claim 56, wherein the curvature is arc-shaped; and

wherein said curvature preferably extends over 150° to 180°.

58. (new) Cover according to claim 35, wherein the cover sheet, or at least segments thereof, is arranged at an angle and wherein the zigzag surface structure is made such that this drains along the slope.

59. (new) Cover according to claim 35, wherein the cover sheet is a glass cover sheet containing silicon dioxide.

60. (new) Cover according to claim 35, wherein the cover sheet is made of a plastic selected from the group consisting of PMMA plastic, PC plastic, or PET-G plastic.

61. (new) Combination of two covers according to claim 35, wherein the cover plates of each of the covers are above one another to run parallel to one another.

62. (new) Building, in particular a greenhouse for the cultivation of plants, provided with a roof including a cover according to claim 35.

63. (new) Combination comprising:
a cover according to claim 35; and

an object;

wherein the cover covers the object; and

wherein the object uses, absorbs, and converts solar radiation.

64. (new) Combination according to claim 63, wherein the object includes at least one of an earth substrate and a plant.

65. (new) Combination according to claim 63, wherein the object includes one or more solar cells of a type containing semiconductor material.

66. (new) Combination according to claim 65, wherein the one or more solar cells are positioned in contact with one side of the cover sheet.

67. (new) Combination according to claim 66, wherein the one or more solar cells have been applied to the cover sheet by deposition selected from the group consisting of vapor deposition, sputtering, CVD, and PVD.

68. (new) Combination according to claim 63, wherein the object includes a solar collector.